the usefulness of said relationship links through weighting, pruning and aging of said relationship links.

23. A method for retrieving help information in a system where informational items are not fixedly mapped to one another comprising the steps of:

determining an efficient path to arrive at a particular help item of interest; and

storing a context in which a help item is sought as well as the path to said help item.

24. The method as recited in claim 23, further comprising the step of reexamining and dynamically changing said efficient path to a particular help item upon subsequent help item searches or retrieval.

25. The method as recited in claim 23, wherein said efficient path is determined based on said context in which said help item was sought.

Remarks

A reconsideration of the present application is respectfully requested. Applicant's response will proceed in the same chronological order as provided by the Examiner in the aforementioned Office Action.

Claims 1-22 as originally filed stand rejected under 35 USC § 102(e) as anticipated by Horvitz, et al. (U.S. Patent No. 6,021,403). Applicants' wish to specifically point out that the Examiner may have relied on the existence of key words and not the definition and contextual use of those words. For example, Applicants have used the term Bayesian-type to indicate that the process, while having some similarities

to a traditional Bayesian belief network, has some modifications that distinctively make it non-Bayesian. However, Examiner has relied on the term Bayesian and thus equated Applicants' process to a traditional Bayesian belief network. As such, Applicants have specifically amended the remaining claims to avoid using such terms and to reduce the possibility of confusion while distinctly claiming the novel aspects of the present invention. Further, the title of this application has been amended to eliminate the term "Bayesian" therefrom.

Anticipation under 35 USC § 102 requires disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Apple Computer, Inc. v. Articulate Systems, Inc., 234 F.3d 14,57 USPQ2d 1057 (Fed. Cir. 2000), citing Electro Med sys. S.A. v. Cooper Life Sciences, 34 F.3d 1048,1052, 32 USPQ2d 1017, 1019 (Fed. Cir. 1994).*

Bayesian networks (sometimes called Belief networks or directed graphical models) are a specialization of the more general and prior art "graph network" (or "network graph") which is a set of data items often with weighed links between the models therein. Further, Bayesian networks have a rather complicated motion of independence and provide a compact representation of joint probability distributions.

Horvitz '403 references temporal and algorithmic network constraints using the traditional probabilistic relationships. As described earlier, Applicants' invention contains limitations and steps which are neither taught, suggested or a part of a Bayesian network. Applicant's invention specifically allows cycles in the network structure. By contrast, the Horvitz patent references cycles and cyclic in referring to

temporal aspects of their approach not algorithmic network constructs. Specifically, Horvitz discusses how the human and the computer interact in a cyclic manner (col. 11, lines 14-30), involving interval timers and the like to spur these human computer interaction cycles (col. 30, lines 31-67). Horvitz does not teach or suggest Applicants' non-probabilistic deviation from the Bayesian approach which explicitly requires a non-cyclic graph (col. 7, lines 54-57).

In fact, to the extent that Horvitz teaches the use of a Bayesian network, Horvitz arguably teaches away from the method of Applicant's invention described and specifically claimed in amended claim 1 and dependent claims 2 and 4-12. Accordingly, Applicant's respectfully submits that amended claims reciting a non-probabilistic approach make the corresponding method and system distinctly non-Bayesian.

Independent claim 14 has been amended to incorporate the weighting and arranging means, which as previously discussed distinguishes Applicant's system form prior art. Accordingly, dependent claim 15 has also been amended to remove the limitations which have now been incorporated into the amended claim 14.

With respect to claim 14 and in particular, referring to the last two limitations of claim 14, Applicants refer back to the earlier discussion regarding the distinction of weighting and strength from standard probability as is used in Bayesian approaches, which are echoed in Horvitz. Horvitz utilizes probabilities to generate ordering. By contrast, Applicants' invention utilizes a much different approach as earlier discussed.

Further, as amended, Horvitz fails to teach or suggest every limitation of claim 15. In particular, the limitation "means for aging the relationship links", is not taught or suggested by Horvitz. While Horvitz provides necessary data to perform aging, it does not teach or suggest a method for performing that aging. Even further, the aging limitation through the use of feedback also distinguishes Applicant's invention from the cited prior art. The adjustment of a relevancy rating when a lapsed time exceeds a threshold value is certainly not suggested or taught in the prior art. With respect to the removal of links "means for pruning the relationship links", removal in Applicant's invention and Horvitz are performed with different processes and algorithms.

In the limitation of claim 16 as amended, "means for merging the resulting output of ensemble of algorithms into a non-probabilistic network". As noted earlier, there has been a misinterpretation of the technique of Applicant's invention as Bayesian, which it is not. Examiner's attention is specifically drawn to the previous wording Bayesian-type. Applicant's have amended the claim to further set-out the distinction. To reiterate, a Bayesian network is a specific type of graph network in that the links are representative of the "probabilistic relationships" between two items and a restriction on the topology of its network. The distinction of Applicant's invention from a Bayesian network is specifically detailed in the earlier discussions respecting Horwitz patent.

Arguments for patentability of claims 1-12 and 14-16 are mutually applicable as same relate to the Horvitz patent and a probabilistic versus a non-probabilistic network.

As to claims 17-22, these claims are recited to the same subject matter as claims 13-16 in the form of computer readable storage mediums. This claims are also allowable for the reasons state above.

Claims 23 –25 as originally filed, stand rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz and in view of Zellweger (U.S. Patent No. 5,630,125). The Examiner contends that Zellweger discloses a system having a method for "recursively determining an efficient path for a... based on the context in which the help item was sought;" and "dynamically changing and storing the context and path in which a help item is sought."

In order to make out a prima facie case of obviousness, the references cited by the Examiner must provide all of the elements of the invention as claimed, and a suggestion to combine the disclosures of the various cited art references to make the claimed invention. *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *ACS Hospital Systems, Inc v. Montefiore Hospital*, 732 F. 2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir 1984).

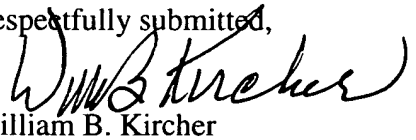
Changes as taught in Zellweger are not dynamic. Zellweger provides for changes to be made by a programmer/designer and those changes are codified into a static presentation of the system. In Zellweger, a system is described for the construction of item relationships by a programmer rather than an automated process by which the computer learns how the end-user interacts with the system as claimed in applicants invention. Also of significant importance, is the fact that there is no suggestion to combine the teaching of Zellweger with those of Horvitz . Zellweger is directed to a user

interface process to help a current user as he/she navigates through the user interface. The system of Zellweger does not learn from the user's mistakes, nor does it utilize any information from a previous session to guide the next user. In other words, Zellweger addresses a process which aides a current user and not a subsequent user. Even further, neither of the references alone or in combination teach or suggest Applicant's claimed invention.

Conclusion

For the reasons stated above, claims 1-2, 4-12, and 14-25 are now in condition for allowance. Applicant respectfully requests withdrawal of the pending rejections and allowance of the above-mentioned claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned prior to issuing a subsequent action. No new claims have been added. It is Applicant's position that no new matter has been added and that there is sufficient disclosure within the present application to support the amended claims. Enclosed is the two-month extension fee of $410.00. The Commissioner is hereby authorized to charge any additional amount required, or credit any overpayment, to Deposit Account No. 19-2112.

Respectfully submitted,



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Version With Markings to Show Changes Made

1. (Amended) A method of classifying a plurality of informational items in an information retrieval system, comprising the steps of:

detecting an access of a first informational item;

detecting an access of a second informational item;

applying an ensemble of clustering algorithms; [and]

creating a relationship link between said first informational item and second informational item; and

determining a non-probabilistic weighting or strength for said relationship link.

2. The method as recited in claim 1 wherein said step of detecting the second informational item includes the detecting of a plurality of informational items.

3. (Cancelled)[The method as recited in claim 2, further comprising the step of:

determining a weighting or strength for said relationship link].

4. (Amended) The method as recited in claim [3]2, further comprising the step of :

applying an algorithm for data aging wherein the usage of the relationship link is monitored and used as feed back for the weighting associated with the relationship link.

5. The method as recited in claim 4, further comprising the step of :

applying a pruning algorithm wherein external information regarding the usefulness of at least one relationship link is utilized to modify weighting/strength or existence of a recorded relationship link.

6. The method as recited in claim 5, wherein said pruning algorithm is repeatedly applied to determine if a recorded relationship link should be ignored or placed in a list of bad links.

7. The method as recited in claim 5, wherein said pruning algorithm makes use of a user determined feedback of the usefulness of a relationship link.

8. The method as recited in claim 2, wherein said ensemble includes a plurality of algorithms and wherein said relationship link is weighted in direct proportion to the number of algorithms within said ensemble of algorithms that determine the existence of said relationship link.

9. The method as recited in claim 2, wherein said relationship link is positioned in a list in direct proportion to the degree of consensus among said ensemble of algorithms.

10. The method as recited in claim 2, wherein said ensemble includes a plurality of algorithms and wherein each algorithm within said ensemble of algorithms runs independently of all other algorithms.

11. The method as recited in claim 2, further comprising the step of merging the outputs of said ensemble of algorithms.

12. (Amended) The method as recited in claim 2, further comprising the step of recording said relationship link in a [Bayesian-type Belief] non-probablistic Network.

13. (Cancelled)

a set of random Frequently Asked Questions(FAQ) or Data;

a set of relationships between nodes;

a weight which describes the strength of relationship between each node; and

a network structure which allows cycles and other structures with no limitations.

14. (Amended) An apparatus for providing classification of informational items in an information retrieval system comprising:

means for detecting an access of informational items;

means for applying an ensemble of clustering algorithms; [and]

means for creating relationship links between said informational items to enhance the effectiveness of said system ;

means for weighting said relationship links; and

means for arranging said relationship links in direct proportion to the outcome of said ensemble of algorithms.

15. (Amended) The apparatus of claim 14 including:

means for aging said relationship links; and

means for pruning said relationship links [;

[means for weighting said relationship links; and

means for arranging said relationship links in direct proportion to the outcome of said ensemble of algorithms].

16. (Amended) The apparatus of claim 15 including means for merging the resulting output of said ensemble of algorithms into a non-probabilistic [Bayesian-type Belief] Network.

17. A computer readable storage medium having stored thereon a computer program for implementing a method of classifying a plurality of information items in an information retrieval system, said computer program comprising a set of instructions for implementing the steps recited in claim 2.

18. (Amended) The computer readable storage medium according to claim 17, wherein said computer program further comprises one or more instructions for clustering the resulting output of said ensemble of algorithms into a non-probabilistic [Bayesian-type Belief] Network.

19. The computer readable storage medium according to claim 17, wherein said computer program further comprises one or more instructions for improving the usefulness of said relationship links through weighting of said relationship links.

20. The computer readable storage medium according to claim 17, wherein said computer program further comprises one or more instructions for improving the usefulness of said relationship links through pruning of said relationship links.

21. The computer readable storage medium according to claim 17, wherein said computer program further comprises one or more instructions for improving the usefulness of said relationship links through aging of said relationship links.

22. The computer readable storage medium according to claim 17, wherein said computer program further comprises one or more instructions for improving the usefulness of said relationship links through weighting, pruning and aging of said relationship links.

23. A method for retrieving help information in a system where informational items are not fixedly mapped to one another comprising the steps of:

determining an efficient path to arrive at a particular help item of interest; and

storing a context in which a help item is sought as well as the path to said help item.

24. The method as recited in claim 23, further comprising the step of reexamining and dynamically changing said efficient path to a particular help item upon subsequent help item searches or retrieval.

25. The method as recited in claim 23, wherein said efficient path is determined based on said context in which said help item was sought.